

CLAIMS

What is claimed is:

1. A side seal strapping machine configured to feed a strapping material around a load, position, tension and seal the strapping material around the load, the strapping machine comprising:

a frame having a biased, movable carriage mounted thereto;

a modular sealing head mounted to the carriage;

a modular feed head mounted to the carriage; and

a strap chute mounted to the frame,

wherein when strap material is fed into the strapping machine through the feed head and the sealing head into the strap chute, the strap traverses through the chute and is tensioned around the load, and wherein during tensioning, the carriage, carrying the sealing head and the feed head, floats and is moved downward in the direction of tensioning.

2. The side seal strapping machine in accordance with claim 1 wherein the carriage includes a feed head receiver region to carry the feed head and a sealing head receiver region to carry the sealing head.

3. The side seal strapping machine in accordance with claim 1 wherein the carriage is mounted to the frame by a bearing.

4. The side seal strapping machine in accordance with claim 3 wherein the bearing is a linear bearing mounted to a shaft.

5. The side seal strapping machine in accordance with claim 4 wherein the carriage is biasedly mounted to the frame by a spring disposed about the shaft.

6. The side seal strapping machine in accordance with claim 1, the strap chute having a movable bottom chute section and a movable lower head-side chute section adjacent the sealing head, the movable lower head-side chute section being movable with the carriage, the movable lower head-side chute section and the bottom section being hingedly connected to one another for cooperative movement, wherein the movable strap chute sections provide a self aligning strap path.

7. The side seal strapping machine in accordance with claim 1 including two movable carriages mounted to the frame in side-by-side relation to one another, each carriage including a modular sealing head and a modular feed head mounted thereto, each carriage having a strap chute associated therewith mounted to the frame, the modular sealing heads and the modular feed heads being operable independently of one another.

8. The side seal strapping machine in accordance with claim 1 wherein the strap chute includes a bottom chute section, and wherein the strap chute includes a passive debris ejection system including openings formed in the bottom chute section and openings formed at junctures of the bottom chute section and sections adjacent thereto, wherein debris that is generated during handling of the load is ejected from the strap chute through the openings formed in the bottom chute section and the openings formed at the junctures of the bottom chute section and sections adjacent thereto.

9. A strapping machine configured to feed a strapping material around a load, position, tension and seal the strapping material around the load, the strapping machine comprising:

- a frame;
- a sealing head;
- a feed head; and
- a strap chute,

the sealing head and the feed head operably mounted to one another and operably mounted to the frame along a side of the frame for vertical movement thereon,

wherein when strap material is fed into the strapping machine through the feed head and the sealing head into the strap chute, the strap traverses through the chute and is tensioned around the load, and wherein during tensioning, the carriage, carrying the sealing head and the feed head, floats and is moved downward in the direction of tensioning.

10. The strapping machine in accordance with claim 9 wherein the sealing head and the feed head are slidably mounted to the frame by a bearing mounted to a shaft and wherein the sealing head and the feed head are biasedly mounted to the frame.

11. The strapping machine in accordance with claim 10 including a spring for biasedly mounting the sealing head and the feed head to the frame.

12. The strapping machine in accordance with claim 11 wherein the spring is disposed about the shaft.

13. The strapping machine in accordance with claim 9, the strap chute having a movable bottom chute section and a movable lower head-side chute section adjacent the sealing head, the movable lower head-side chute section being movable with the carriage, the movable lower head-side chute section and the bottom section being hingedly connected to one another for cooperative movement, wherein the movable strap chute sections provide a self aligning strap path.

14. A strapping machine configured to feed a strapping material around a load, position, tension and seal the strapping material around the load, the strapping machine comprising:

a frame;

a sealing head operably mounted to the frame;

a feed head operably mounted to the frame; and

a strap chute operably mounted to the frame the strap chute including a bottom chute section, and wherein the strap chute includes a passive debris ejection system including openings formed in the bottom chute section, wherein debris that is generated during handling of the load is ejected from the strap chute through the openings formed in the bottom chute section.

15. The strapping machine in accordance with claim 14 including openings formed in the strap chute at junctures of the bottom chute section and sections adjacent thereto, wherein debris that is generated during handling of the load is ejected from the strap chute through the openings formed in the bottom chute section

and the openings formed at the junctures of the bottom chute section and sections adjacent thereto.

16. The strapping machine in accordance with claim 15 wherein the bottom chute section and the sections adjacent thereto are hingedly mounted to one another.

17. The strapping machine in accordance with claim 14 wherein the feed head and the sealing head are mounted to the frame to allow for vertical movement to accommodate strap tensioning about the load and wherein the strap chute is operably mounted to the feed head and the sealing head for movement in response to and to accommodate the vertical movement of the feed head and the sealing head.

18. The strapping machine in accordance with claim 17 wherein the bottom chute section and strap chute sections adjacent thereto are hingedly mounted to one another.

19. The strapping machine in accordance with claim 18 including openings formed in the strap chute at junctures of the bottom chute section and the sections adjacent thereto, and wherein debris that is generated during handling of the load is ejected from the strap chute through the openings formed in the bottom chute section and the openings formed at the junctures of the bottom chute section and sections adjacent thereto.